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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Hitoshi Yokoyama

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EXAMINER

BADR, HAMID R

ART UNIT

PAPER NUMBER

1794

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/581,253	Applicant(s) YOKOYAMA ET AL.	
	Examiner HAMID R. BADR	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7,9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7,9 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicants' amendment filed 6/10/2009 is acknowledged.

Claims 1-5, 7, and 9-10 are being considered on the merits.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 7, 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wlodarczyk et al. (PL-176077; hereinafter R1) in view of Ishigaki et al. (US 6,183,787; hereinafter R2) and Kato et al. (US 5,972,394; hereinafter R3).

3. R1 discloses a starter inoculum containing lactic acid bacteria which are known to be derived from sour leaven and yeast. After activation of the culture they are added to a mixture of rye and soybean flour and fermented for certain time at certain temperature. The starter inoculum can improve the quality of produced bread. (Abstract)

4. While R2 is silent regarding the sterilization step as presently claimed, heat inactivation of microorganisms and their enzymes in the fermented products is known and practiced in the art. The heat inactivation will ensure prevention of further fermentative activities of yeast and lactic acid bacteria in order to keep the quality of the fermented product.

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5. The yeast and lactic fermentation as disclosed by R1 will have a pH lowering effect and the pH range as presently claimed is the range of pH for sour doughs already known in the art.

6. The microorganisms of panetone sour leaven, as presently claimed, comprise *S. exiguus*, *L. sanfrancisco* and *L. italicus*. All of these organisms are known in the sour dough bread art. Therefore, the fermentation of soybean protein using these known sour leaven organisms would be obvious to an artisan.

7. The incorporation of fermented dough improvers at 1-3% by weight, is known and practiced in the art.

8. While it is recognized that the phrase "consisting essentially of" narrows the scope of the claims to the specified materials and those which do not materially affect the basic and novel characteristics of the claimed invention, absent a clear indication of what the basic and novel characteristics are, "consisting essentially of" is construed as equivalent to "comprising". Further, the burden is on the applicant to show that the additional ingredients in the prior art, i.e. rye or any cereal flour, would in fact be excluded from the claims and that such ingredients would materially change the characteristics of the applicant's invention, See MPEP 2111.03.

9. Omission of an Element and Its Function Is Obvious if the Function of the Element Is Not Desired

Ex parte Wu , 10 USPQ 2031 (Bd. Pat. App. & Inter. 1989) (Claims at issue were directed to a method for inhibiting corrosion on metal surfaces using a composition consisting of epoxy resin, petroleum sulfonate, and hydrocarbon diluent. The claims were rejected over a primary reference which disclosed an anticorrosion composition of epoxy

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resin, hydrocarbon diluent, and polybasic acid salts wherein said salts were taught to be beneficial when employed in a freshwater environment, in view of secondary references which clearly suggested the addition of petroleum sulfonate to corrosion inhibiting compositions. The Board affirmed the rejection, holding that it would have been obvious to omit the polybasic acid salts of the primary reference where the function attributed to such salt is not desired or required, such as in compositions for providing corrosion resistance in environments which do not encounter fresh water.). See also *In re Larson*, 340 F.2d 965, 144 USPQ 347 (CCPA 1965) (Omission of additional framework and axle which served to increase the cargo carrying capacity of prior art mobile fluid carrying unit would have been obvious if this feature was not desired.); and *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975) (deleting a prior art switch member and thereby eliminating its function was an obvious expedient). MPEP 2144.04-II-A

10. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to add yeast and lactic fermented soyprotein to dough for baking bread. The addition of yeast and lactic fermented soyprotein will enhance the flavor of the baked product as well as improving the crumb softness and volume improvement. Absent any evidence to contrary and based on the combined teachings of the cited references, there would be a reasonable expectation of success in making the fermented soyprotein and using it in the bread.

11. Claims 1-5, 7 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishigaki et al. (US 6,183,787; hereinafter R2) in view of Kato et al. (US 5,972,394; hereinafter R3).

12. R2 discloses a quality improver for producing bread comprising a lactic acid fermentation product of soy bean. (Abstract)

13. R2 discloses bread formulations by incorporating quality improvers for producing bread. R2 discloses the addition of protease into the formulations. The lactic acid fermentation product of product of soybean is produced by preparing the soybeans,

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adding the protease to the slurry and hydrolyzed for 30 minutes. Then a lactic acid starter is added and fermented for certain time at certain temperature. Bread is then produced by incorporating the quality improver into wheat flour. The amount of the improver is approximately 1.2 or 3 % by weight. (Col. 9, Examples 1-4, Table 1 and lines 25-40 and col.7, lines 48-54).

14. While R2 discloses the incorporation of a fermented soybean product into the yeast leavened bread dough as a quality improver, R2 is silent regarding the fermentation of soybeans with lactic acid bacteria and yeast simultaneously.

15. R3 discloses a method of preparing a fermented soybean milk comprising subjecting a soybean milk to fermentation with yeast and lactic acid bacteria and subjecting the resulting fermented soybean milk to a deactivation treatment to deactivate the yeast and bacteria by heat. (Abstract).

16. R3 discloses *Saccharomyces cerevisiae* as the yeast and a group of lactic acid bacteria for the lactic fermentation. (Col. 3, lines 49-63). The panetone sour leaven as presently claimed comprises *S. exiguus*, *L. sanfrancisco*, *L. italicus*. All of these organisms are known in the sour dough art. Therefore, using such organism as presently claimed would have been obvious to an artisan.

17. R3 discloses that after adding the yeast and the lactic acid bacteria into the soybean milk, the milk undergoes fermentation.

18. Given that lactic acid bacteria of sour leaven are known in the art or baking, it is obvious that the lactic acid bacteria for the mixed fermentation of soybean milk can be derived from sour leaven as presently claimed depending on the desired end use.

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19. It is noted that the pH for the propagation of yeast is between 4-5. Therefore, the limitation of claim 5 is obvious to those of skill in the art.

20. R3 discloses the heat treatment and deactivation of the fermented soybean milk. (Col. 4, lines 36-50).

21. R3 discloses during the fermentation, various substances including alcohol and lactic acid are produced and the flavor and the taste are simultaneously improved so as to obtain a fermented soybean milk which has a good flavor and a good taste. (Col. 3, lines 3-7).

22. R2 discloses the incorporation of a lactic fermentation product of soybeans into bread dough in order to improve the quality of bread. The quality of bread includes the aroma and taste and texture as well as resistance to staling. R3 teaches the mixed fermentation of soybean milk which can improve the organoleptic properties of the soybean product, therefore, it would have been obvious to follow the teachings of R2 and use the mixed fermentation product of soybeans as taught by R3. One would do so to improve the quality of the baked bread. Absent any evidence to contrary and based on the combined teachings of the cited references, there would be a reasonable expectation of success in incorporating the fermented soybean product into bread dough to impart functionality and flavor to the baked bread.

Response to Arguments

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Applicants arguments have been considered thoroughly. These arguments are not deemed persuasive.

1. Applicants argue that the quality improver for producing bread of R2 contains, as essential components, a component selected from malt, rice fermentation product and wheat fermentation product and biotin. Thus this product is totally different from the bread improving agent of the present invention, consisting essentially of soybean protein.

a. While it is recognized that the phrase “consisting essentially of” narrows the scope of the claims to the specified materials and those which do not materially affect the basic and novel characteristics of the claimed invention, absent a clear indication of what the basic and novel characteristics are, “consisting essentially of” is construed as equivalent to “comprising”. Further, the burden is on the applicant to show that the additional ingredients in the prior art, i.e. malt, rice, wheat flour, and vitamins or any cereal flour, would in fact be excluded from the claims and that such ingredients would materially change the characteristics of the applicant’s invention, See MPEP 2111.03.

Further, Omission of an Element and Its Function Is Obvious if the Function of the Element Is Not Desired

Ex parte Wu , 10 USPQ 2031 (Bd. Pat. App. & Inter. 1989) (Claims at issue were directed to a method for inhibiting corrosion on metal surfaces using a composition consisting of epoxy resin, petroleum sulfonate, and hydrocarbon diluent. The claims were rejected over a primary reference which disclosed an anticorrosion composition of epoxy resin, hydrocarbon diluent, and polybasic acid salts wherein said salts were taught to be beneficial when employed in a freshwater environment, in view of secondary references which clearly suggested the addition of petroleum sulfonate to corrosion inhibiting compositions. The Board affirmed the rejection, holding that it would have been obvious

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to omit the polybasic acid salts of the primary reference where the function attributed to such salt is not desired or required, such as in compositions for providing corrosion resistance in environments which do not encounter fresh water.). See also *In re Larson*, 340 F.2d 965, 144 USPQ 347 (CCPA 1965) (Omission of additional framework and axle which served to increase the cargo carrying capacity of prior art mobile fluid carrying unit would have been obvious if this feature was not desired.); and *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975) (deleting a prior art switch member and thereby eliminating its function was an obvious expedient). MPEP 2144.04-II-A

3. Applicants argue that R3 is an irrelevant reference because it deals with a beverage and does not teach or suggest the bread improving agent of the presently claimed invention.

a. R3 is a relevant reference because it teaches the concept with which the Applicants were involved; namely the simultaneous fermentation of soybean milk (soy bean protein) using yeast and lactic acid bacteria. Additionally it teaches the heat treatment of the fermented product to stop the fermentative activity to keep the quality of the fermented product. This concept is also being presently claimed.

Further, R3 is a teaching reference and as such it does not have to address the bread quality improver as presently claimed. It teaches certain technical feature of the presently claimed invention and together with the primary reference make the presently claimed invention obvious to those of skill in the art.

Conclusion

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAMID R. BADR whose telephone number is (571)270-3455. The examiner can normally be reached on M-F, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hamid R Badr
Examiner
Art Unit 1794

/Keith D. Hendricks/
Supervisory Patent Examiner, Art Unit 1794